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10/696,238	10/28/2003	Norman Paul Jouppi	200313181-1	5263

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HEWLETT-PACKARD DEVELOPMENT COMPANY

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EXAMINER

TORRES, JOSE

ART UNIT	PAPER NUMBER
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2112

DATE MAILED: 10/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

31

Office Action Summary

Application No.

10/696,238

Applicant(s)

JOUPPI ET AL.

Examiner

Jose M. Torres

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 28 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. ____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/28/2003 and 05/10/2004</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Drawings

1. The drawings are objected to because page 3 of the Drawings it is being referred as page 4.
2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: "surrogate's head 202" on page 8, paragraph 28 line 1.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because:

Reference characters "402" and "404" have both been used to designate "cylindrical section" on page 11, paragraph 37 lines 6 and 8 respectively.

Reference character "106" has been used to designate both "near-infrared illuminators" and "surrogate" on page 7, paragraph 26 line 1, and page 8, paragraph 28 line 10 respectively.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the

changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. In addition to Replacement Sheets containing the corrected drawing figure(s), applicant is required to submit a marked-up copy of each Replacement Sheet including annotations indicating the changes made to the previous version. The marked-up copy must be clearly labeled as "Annotated Sheets" and must be presented in the amendment or remarks section that explains the change(s) to the drawings. See 37 CFR 1.121(d)(1). Failure to timely submit the proposed drawing and marked-up copy will result in the abandonment of the application.

Specification

5. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required:

Claim 17 lines 1 and 2: "said estimating comprises scaling the images."

Claim 30 line 1: "program storage device readable by a machine."

Appropriate correction required.

Claim Rejections - 35 USC § 101

6. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 30 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The claim limitation "A program storage device readable by a machine, tangibly embodying a program of instructions executable by the machine" in lines 1 and 2, is directed to a program only. This subject matter is not limited to that which falls within a statutory category of invention because it is not limited to a process, machine, manufacture, or a composition of matter. Whether functional or non-functional, claim 30 fails to claim the program recorded on an appropriate computer readable medium so as to be structurally and functionally interrelated to the medium and permit the function of the descriptive material to be realized. The examiner suggests replacing it with -- A computer readable medium having stored thereon a computer program executed by a computer to perform --.

Claim Rejections - 35 USC § 112

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. Claims 14 and 24 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

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Claim 14 recited the limitation "directing the person's voice at a remote location according to the angular orientation of the person's head". The claim language is indefinite; it is not clear as to how the method of directing the person's voice at a remote location is related with determining the angular orientation of an object.

Claim 24 recites the limitation "the luminance values" in line 1. There is insufficient antecedent basis for this limitation in the claim. However, it appears to be dependant upon claim 2 and has been treated as such. Affirmation of this is required by the appropriate amendment.

Appropriate correction is required.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1, 11-14, 18, 28, 30 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. (U.S. 7,068,856 B2) in view of Pavlidis et al. (U.S. 6,370,260 B1).

Albertelli et al. teaches a method for determining the angular orientation of an object (see Fig.1) comprising: assigning values to a plurality of positions in a polar plot

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(25) using data from the images (10) wherein the polar plot has an origin; and computing a centroid (30) based on the assigned values wherein an angle of the centroid (55) with respect to the origin indicates the angular orientation of the object (see Cols. 2 and 3) as recited in claim 1, determining a location of the object in the field of view of each of a plurality of cameras and when the object is not in the center of the field of view, said assigning is corrected according to its distance from the center (Col. 4 lines 65-67, and Col. 5 lines 1-5), performing a 180 degree correction of angular orientation of the person's head (Col. 4 lines 65-67 and Col. 5 lines 1-2) as recited in claim 18, and the values assign to the polar plot represent vertical luminance variance (Col. 4 line 43) as recited in claim 28.

However, Albertelli et al. fails to disclose obtaining a plurality of images of the object as recited in claims 1 and 30, the images are obtained from near-infrared light from the object as recited in claim 11, the object is a person's head as recited in claim 13, and a plurality of cameras (as recited in claim 12) for obtaining a plurality of images of the object as recited in claim 31.

Pavlidis et al. teaches obtaining a plurality of images of the object (see Fig. 1 Col. 4 lines 1-2) as recited in claims 1 and 30; the images are obtained from near-infrared light from the object (Col. 3 lines 19-23) as recited in claim 11; the object is a person's head (see Fig. 1 Col. 4 lines 1-2) as recited in claim 13; a plurality of cameras (11 and 12) for obtaining a plurality of images of the object as recited in claim 31.

Therefore, in view of Pavlidis et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Albertelli et al.'s invention by

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including the method steps of obtaining a plurality images of the object from near-infrared light and such object being a person's head, and include a plurality of cameras for obtaining a plurality of images of the object in order to be readily implemented, have minimal computational complexity, and retrieve similar imaging signals for various humans and/or objects despite their color.

Regarding claim 14, as understood, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Albertelli et al.'a invention by including the method step of directing the person's voice at a remote location according to the angular orientation of the person's head in order to focus the sound in a certain direction. Since whenever a person turns his/her head and speaks towards a certain direction, the voice is automatically directed towards the orientation of the person's head at a remote location.

11. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of MacKinnon et al. (U.S. 6,961,461 B2). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose identifying corresponding pixels in the image for the positions in the polar plot and assigning luminance values for the pixels to the positions in the polar plot.

MackKinnon et al. teaches identifying corresponding pixels in the image for the positions in the polar plot and assigning luminance values for the pixels to the positions in the polar plot (see Col. 1 lines 66-67 and Col. 2 lines 1-6).

Therefore in view of MacKinnon et al. it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al. by including the method steps of identifying corresponding pixels in the image for the positions in the polar plot and assigning luminance values for the pixels to the positions in the polar plot in order to represent the object's image more accurately on the display device and under a variety of illumination conditions.

12. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. as modified by Pavlidis et al. and further in view of MacKinnon et al. as applied to claims 1 and 2 above, and further in view of Han et al. (U.S. 6,771,835 B2). The teachings of Albertelli et al. modified by Pavlidis et al. and MacKinnon et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. and Mackinnon et al. fail to disclose interpolating for positions in the polar plot that are between pixels.

Han et al. teaches interpolating for positions in the polar plot that are between pixels (Fig. 13 Col. 14 lines 51-58).

Therefore, in view of Han et al. it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention,

as modified by Pavlidis et al. and Mackinnon et al. by including the method step of interpolating for positions in the polar plot that are between pixels in order to increase the image quality and its corresponding resolution.

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of Komura et al. (U.S. 2003/0179950 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the method step of non-linear mapping of pixel position to polar position.

Komura et al. teaches non-linear mapping of pixel position to polar position (Sections [0009] and [0029]).

Therefore, in view of Komura et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of non-linear mapping of pixel position to polar position in order to reduce distortions created by the image capturing device while acquiring image data from a non planar surface, as it is the case of a spherical object.

14. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of Voss et

al. (U.S. 2005/0072903 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the method step of determining a width of the object by scanning each image.

Voss et al. teaches the method step of determining a width of the object by scanning each image (see Paragraph [0017]).

Therefore, in view of Voss et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of determining a width of the object by scanning each image in order to not only easily track an object, but to focus the image capturing device in a predetermined area.

15. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of Kiraly (U.S. 2004/0032970 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the method step of calibrating cameras prior to obtaining the images from the cameras as recited in claim 6, and said calibrating cameras comprises obtaining images of a cylindrical object of uniform color as recited in claim 7.

Kiraly teaches the method step of calibrating the cameras (152) prior to obtaining the images from the cameras (see Fig. 2 step 52 Paragraph [0053]) as recited in claim

6, and said calibrating comprises obtaining images of a cylindrical object of uniform color (see Paragraph [0057]).

Therefore, in view of Kiraly, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of calibrating cameras prior to obtaining the images from the cameras by obtaining imaged of a cylindrical object of uniform color in order to more precisely obtain the object's image, and to decrease noise in natural image regions. Furthermore, in view of Kiraly, the calibration process could be performed by any commonly known process, not only using a cylindrical object, but any other geometrically shaped object of any color.

16. Claims 8, 9, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of Kondo et al. (U.S. 2005/0248972 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the plurality of images consists of four images taken by each of four cameras and wherein said assigning includes assigning one of the images to each of four quadrants of the polar plot as recited in claim 8, the plurality of images consists of three images taken by each of three cameras and wherein said assigning includes assigning one of the images to each of three 120 degree intervals of the polar plot as recited in claim 9, and the polar plot is divided into sectors with an image of the plurality being

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obtained for each sector and with all sectors of the polar plot being imaged as recited in claim 10.

Kondo et al. teaches the plurality of images consists of four images taken by each of four cameras (43₁, 43₂, 43₃, 43₄, in Fig. 21) wherein said assigning includes assigning one of the images to each of four quadrants of the polar plot (Section [0211]) as recited in claim 8, the plurality of images consists of three images taken by each of three cameras and wherein said assigning includes assigning one of the images to each of three 120 degree intervals of the polar plot (Section [0211]) as recited in claim 9, and the polar plot is divided into sectors with an image of the plurality being obtained for each sector and with all sectors of the polar plot being imaged (Section [0211]) as recited in claim 10.

Therefore, in view of Kondo et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of obtaining the plurality of images from four and/or three cameras, and wherein said assigning includes assigning one of the images to each of four quadrants and/or three 120 degree intervals of the polar plot, and divide the polar plot into sectors with an image of the plurality being obtained for each sector and with all sectors of the polar plot being imaged, in order to increase the field of view of the system and provide a symmetrical representation of the image data using an appropriate coordinate system.

17. Claims 15-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 13 above, and further in view of Chen (U.S. 2004/0213460 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose estimating a vertical position of the person's eyes and obtaining luminance values of the images at or below the level of the person's eyes as recited in claim 15; scanning the images to locate the top of the person's head and measuring a distance down from the top of the person's head as recited in claim 16; and scaling the images as recited in claim 17.

Chen teaches estimating a vertical position of the person's eyes and obtaining luminance values of the images at or below the level of the person's eyes (404, Section [0086]) as recited in claim 15, scanning the images to locate the top of the person's head and measuring a distance down from the top of the person's head (H_{2e}, Section [0086]) as recited in claim 16, and said estimating comprises scaling the images (Section [0086]) as recited in claim 17.

Therefore, in view of Chen, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method steps of estimating a vertical position of the person's eyes and obtaining luminance values of the images at or below the level of the person's eyes, scanning the images to locate the top of the person's head and measuring a distance down from the top of the person's head, and scaling the

images in order to design a system that can automatically outline a human and/or object figure with high precision using cutting-edge technology instead of conventional method.

18. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 13 above, and further in view of Toyama (U.S. 6,937,745 B2). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose displaying images of a remote location for the person.

Toyama teaches displaying images of a remote location for the person (Fig. 2A, 220, Col. 5 lines 13-19).

Therefore, in view of Toyama, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of displaying images of a remote location for the user in order to make the user capable of altering the system's parameters like moving the camera position to acquire a better image.

19. Claims 20-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 13 above, and further in view of Sevigny (U.S. 2004/0051716 A1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the method step of forming the images by performing difference keying as recited in claim 20, the images are obtained from near-infrared light from the person's head as recited in claim 21, the performing difference keying includes subtracting a baseline image of an apparatus from an image obtained with the person's head being located within the apparatus as recited in claim 22, and the apparatus comprises projection screens that substantially surround the person as recited in claim 23.

Sevigny teaches forming the images performing difference keying (see Section [0097]) as recited in claim 20, performing difference keying includes subtracting a baseline image of an apparatus from an image obtained with the person's head being located within the apparatus (Section [0121]) as recited in claim 22, and the apparatus comprises projection screens (117) that substantially surround the person (Section [0079]).

Therefore, in view of Sevigny, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of forming the image by performing difference keying, wherein said difference keying includes subtracting a baseline image of an apparatus from an image obtained with the person's head being located within the apparatus and projection screens that substantially surround the person in order to decrease image processing time to obtain a superior performance from the apparatus when using it in a real-time telepresence system, and enable the

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system to not only project the images of a remote location, but to generate an alternative background for purposes other than telepresence systems.

20. Claims 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. as modified by Pavlidis et al. as applied to claim 1 above, and further in view of Komura et al.. The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

Albertelli et al. discloses the luminance values assigned to the polar plot represent a vertical average (Col. 4 line 43) as recited in claim 26.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the values are obtained from a band around the object that is one pixel wide as recited in claim 24, and multiple pixels wide as recited in claim 25.

Komura et al. teaches the values are obtained from a band around the object that is one and/or multiple pixels wide (Section [0007]).

Therefore, in view of Komura et al. it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by adjusting the scan line to obtain the value of a single or multiple pixels of Komura et al.'s method and assigning luminance values that represent a vertical average in order to decrease the amount of data to be processed by the system and increase its performance in real-time applications.

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21. Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. as modified by Pavlidis et al. and Komura et al. as applied to claim 25 above, and further in view of Han et al. The teachings of the teachings of Albertelli et al. modified by Pavlidis et al. and Komura et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. and Komura et al. fail to disclose performing bi-linear interpolation for positions in the polar plot that are between pixels.

Han et al. teaches performing bi-linear interpolation for positions in the polar plot that are between pixels (Col. 14 lines 51-63).

Therefore, in view of Han et al., it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Albertelli et al.'s invention, as modified by Pavlidis et al. further modified by Komura et al. by including the method step of performing bi-linear interpolation for positions in the polar plot that are between pixels in order to in order to increase the image quality and resolution.

22. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Albertelli et al. in view of Pavlidis et al. as applied to claim 1 above, and further in view of Jiang (U.S. 7,082,221 B1). The teachings of Albertelli et al. modified by Pavlidis et al. have been discussed above.

However, the teachings of Albertelli et al. modified by Pavlidis et al. fail to disclose the values assigned to the polar plot represent vertical frequency content.

Jiang teaches the values assigned to the polar plot represent vertical frequency content (Col.3 lines 4-17).

Therefore, in view of Jiang, it would have been obvious to one of ordinary skill in the art at the time the invention was made to further modify Albertelli et al.'s invention, as modified by Pavlidis et al., by including the method step of assigning the values to the polar plot that represent the vertical frequency content in order to enhance the detail of the image and encode the image data to reduce computational time.

Conclusion

23. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Grau disclose a texture mapping system, and Horton disclose a method and apparatus for determining position and orientation of a movable object.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jose M. Torres whose telephone number is 571-270-1356. The examiner can normally be reached on Monday thru Friday: 8:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on 571-272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JMT
09/29/2006

A handwritten signature in black ink, appearing to read 'J. Lee' with a stylized flourish.

JONG SUK LEE
SUPERVISORY PATENT EXAMINER